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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,923	04/01/2004	Yuan-Chung Lee	MTKP0139USA	2922
27765	7590	05/21/2007		
NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION P.O. BOX 506 MERRIFIELD, VA 22116			EXAMINER KASSA, YOSEF	
		ART UNIT 2624	PAPER NUMBER	
			NOTIFICATION DATE 05/21/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/708,923	LEE, YUAN-CHUNG	
	<b>Examiner</b>	<b>Art Unit</b>	
	YOSEF KASSA	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 01 April 2004.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-3,5 and 13-16 is/are rejected.  
 7) Claim(s) 4,6-12 and 17-20 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 01 April 2004 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date 4/1/04,4/6/04.
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5 and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuoka (U.S. Patent 6,263,120).

With regard to claim 1, Matsuoka discloses detecting if there is an edge in a block of the image according to Discrete Cosine Transform (DCT) data of the block, within which the pixel is located (refer to col. 2, lines 41-46);

if an edge is detected, determining an interpolation direction for the pixel according to the DCT data, and interpolating the pixel according to the interpolation direction (refer col. 2, lines 46-50); and

if no edge is detected, interpolating the pixel vertically or horizontally (refer col. 6, lines 38-51). Although, Matsuoka reference does not expressly call for interpolating the pixel vertically or horizontally, it would have been obvious if not inherent, that Matsuoka does in fact teaches "U and V represent coordinates of a on interpolative pixel" refer to col. 6, lines 49-52. Thus, an ordinary artisan would have recognize the term "coordinates" is used in Matsuoka reference to represent coordinates of an interpolate

pixel.

With regard to claim 2, Matsuoka discloses wherein the DCT data comprises DCT coefficients, step (a) utilizes the DCT coefficients to detect the edge, and step (b) utilizes the DCT coefficients to determine the interpolation direction (refer col. 2, lines 41-49).

With regard to claim 3, Matsuoka discloses wherein the DCT coefficients include a plurality of low frequency DCT coefficients, step (a) utilizes the low frequency DCT coefficients to detect the edge, and step (b) utilizes the low frequency DCT coefficients to determine the interpolation direction (refer col. 6, lines 1-18).

With regard to claim 5, Matsuoka discloses wherein step (a) further comprises: comparing the low frequency DCT coefficients with a threshold to detect the edge (refer col. 6, lines 10-20).

With regard to claim 13, Matsuoka discloses (d) generating the DCT data according to raw data of the image or encoded data of the image (refer col. 2, lines 41-46).

Claim 14 is similarly analyzed and rejection the same as claim 1.

With regard to claim 15, Matsuoka discloses capable of detecting edges the block according to the wherein the processing unit is having different directions in DCT data (refer col. 2, lines 45-53).

With regard to claim 16, Matsuoka discloses wherein if no edge is detected or edges having different directions are detected, the interpolation unit interpolates the pixel vertically or horizontally (refer col. 6, lines 53-57).

***Allowable Subject Matter***

2. Claims 4, 6-12 and 17-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Other Prior Art Cited***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent No. (5488419), (6542693), (5150432) and (5774601).

***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOSEF KASSA whose telephone number is (571) 272-7452. The examiner can normally be reached on Monday-Thursday from 8:00 AM to 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571) 272-7453. The fax phone numbers for the organization where this application or proceeding is assigned is (571) 273-8300 for regular communication and (571) 273-8300 for after Final communications.

Art Unit: 2624

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service office whose telephone number is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**PATENT EXAMINER**

Yosef Kassa

05/11/2007.

A handwritten signature in black ink, appearing to read "Yosef Kassa". The signature is fluid and cursive, with the first name starting with a large 'Y' and the last name ending with a flourish.